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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,034	05/23/2000	James K. Guenter	M10 26373 US	3363

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EXAMINER

VY, HUNG T

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 05/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/577,034

Applicant(s)

GUENTER ET AL.

Examiner

Hung T Vy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.



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## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

### **DETAILED ACTION**

1. In response to the communications dated 05/23/2000, claims 1-20 are pending in this application.

### **Acknowledges**

2. Receipt is acknowledged of the following items from the Applicant.  
Information Disclosure Statement (IDS) filed on 05/23/2001 and made of record as Paper No. 3. The references cited on the PTOL 1449 form have been considered.

### **Drawings**

3. The drawings are objected to by the PTO Draftsperson for the reasons noted on the attached Notice of Draftsperson's Patent Drawings Review, form PTO-948.

The drawings are objected to for the following reasons.

Figure 2 not designated by a legend such as "Prior Art". The Legend is necessary in order to clarify what applicant's invention is (see MPEP § 608.02g).

The drawings are objected to under 37 CFR 1.83(a) because they fail to show (100) and (011") as described in the specification. Any structural detail that is essential

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for a proper understanding of the disclosed invention should be shown in the drawing.

MPEP § 608.02(d).

The brief description of figure 2b is missing (100), (011"). Correction is required.

### **Specification**

4. The specification has been checked to the extent necessary to determine the presence of possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Claim Rejections - 35 USC § 112**

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 - 14 rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Regarding claim 1, the phrase "an **inherent** polarization characteristic" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). What characteristic does "inherent" refer to? In claims, the phrase "adapted to" renders the claim indefinite because it has been held that the recitation that an element is "adapted to" performs a function that is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. ( *In re Hutchison*, 69 USPQ 138). In claim 1, the limitation "to **select and attenuate** the polarization characteristic **equally** " is vague and indefinite. What does "select and attenuate ... equally" mean?

### Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 1 - 19 are rejected under 35 U. S. C. § 102 (b) as being anticipated by U.S. patent No. 5,331,654 to Jewell et al.

Regarding to claim 1, Jewell et al. disclose a polarization controlled optical energy source, as shown in figures 1-10, comprising:

A laser source element having a polarization characteristic (see column 3, lines 19-34, lines 51-54, and column 4, lines 4-21); and

A polarization medium 68 positioned in proximal relation to the laser source element to select and attenuate the polarization characteristic. See column 3, lines 51-54, column 7, lines 4-24.

Regarding to claim 2, Jewell et al. disclose the source, wherein said laser source element is disposed within a component package having an emission aperture formed therein. See column 3, lines 19-34, and column 3, lines 60-63.

Regarding to claim 3, Jewell et al. disclose the source, wherein said polarization medium 68 provides linear polarization. See column 7, line 19-27.

Regarding to claim 4, Jewell et al. disclose the source, wherein said laser source element has multiple distinct polarizations oriented with respect to one another at angular intervals. See column 4, line 33 – 36 and fig 10.

Regarding to claim 5, Jewell et al. disclose the source, wherein said polarization medium 68 or 72 is aligned to provide linear polarization along an axis that equally selects and attenuates the distinct polarizations. See column 8, line 25 – 30.

Regarding to claim 6, Jewell et al. disclose the source, wherein said laser source element is a vertical cavity surface emitting laser. See column 1, line 23 – 27.

Regarding to claim 7, Jewell et al. disclose the source, wherein said vertical cavity surface emitting laser is disposed within a component package having an emission aperture formed therein.. See column 3, lines 19-34, and column 3, lines 60-63.

Regarding to claim 8, Jewell et al. disclose the source, wherein said polarization medium provides linear polarization. See column 7, line 19-27.

Regarding to claim 9, Jewell et al. disclose the source of Claim 8, wherein said laser source element has two distinct polarizations that are normal to one another. See column 4, line 33 – 36 and Fig 10.

Regarding to claim 10, Jewell et al. disclose the source, wherein said polarization medium 88 is aligned to provide linear polarization along an axis that is at about 45 degrees to both distinct polarizations. See column 8, line 40 – 44 and Fig 10.

Regarding to claim 11, Jewell et al. disclose the source, wherein said polarization medium 72 is affixed to the component package spanning the emission aperture. See Fig 2-7.

Regarding to claim 12, Jewell et al. disclose the source, wherein said polarization medium is disposed within the component package between the vertical cavity surface emitting laser and the emission aperture 68 or 72. See column 7, line 19 –22.

Regarding to claim 13, Jewell et al. disclose the source, wherein said polarization medium is formed from a sheet polarization material. See column 4, line 39 – 55.

Regarding to claim 14, Jewell et al. disclose the source, wherein said polarization medium is formed by the application of polymer-based polarization material. See column 5, line 6 – 13.

Regarding to claim 15, Jewell et al. disclose a method for VCSEL polarization control comprising the steps of:

Providing a VCSEL element having a polarization characteristic (see column 3, lines 19-34, lines 51-54, and column 4, lines 4-21).



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Providing a polarization medium 68 or 72. See column 6, line 63 – column 7, line 4; and

Positioning the polarization medium in proximal relation to the laser source element to select and attenuate the polarization characteristic equally. See column 3, lines 51-54, and column 7, lines 4-24.

Regarding to claim 16, Jewell et al. disclose the method, wherein the step of providing a polarization medium 68 further comprises providing a polarization medium 68 that provides linear polarization. See column 7, line 19-27.

Regarding to claim 17, Jewell et al. disclose the method, wherein the step of providing a VCSEL element further comprises providing a VCSEL element having two distinct polarizations that are normal to one another. See column 4, line 33 – 36 and Fig 10.

Regarding to claim 18, Jewell et al. disclose the method, wherein the polarization medium is aligned to provide linear polarization along an axis that is at about 45 degrees to both distinct polarizations. See column 8, line 40 – 44 and Fig 10.

Regarding to claim 19, Jewell et al. disclose the method comprising the steps of: providing a component package having an emission aperture formed ( See column 3, lines 19-34, and column 3, lines 60-63) in a surface thereof;

disposing the VCSEL element within the component package, see Fig 1; and

affixing the polarization medium 68 to the component package spanning the emission aperture. See Fig 2-7.

### **Claim Rejections - 35 U.S.C. § 103**

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 20 rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. patent No. 5,331,654 to Jewell et al. in view of Baldwin et al, U.S. Patent No. 5,761,229.

Regarding to claim 20, Jewell et al. disclose a vertical cavity surface emitting laser component comprising:

a package base, having a first self-aligning feature formed therein for indicating an alignment axis, see Fig 1 and Fig 2 in Jewell et al.;

a vertical cavity surface emitting laser device 10, having two emission polarizations normal to one another (see Jewell et al. at column 4, line 33 – 36), disposed upon the package base and aligned such that each emission polarization is at about 45 degrees with respect to the alignment axis (see column 8, line 39 – 44);

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a linear polarization element, having a polarization direction, spanning the aperture 68 or 72. (See column 5, line 14 –24) and disposed such that the polarization direction is parallel to the alignment axis (see column 5, line 24 – 29).

Jewell et al. do not teach about a package cover coupled to the package base.

Baldwin et al. disclose an integrated laser-based light source, as shown in figure 2A, comprising a package base having a first self-aligning feature, and a can or package cover 106 having a second self-aligning feature and an upper surface aperture 110 formed therein, coupled to the package base such that the first and second self-aligning features matably engage.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Jewell et al. to have a package cover as that of Baldwin et al., because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of, but further increasing the performance of, the invention of Jewell et al.

### ***Citation of Pertinent References***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Jewell et al. disclose polarized surface-emitting laser, U.S. Patent No. 5,331,654

The patent to Baldwin et al. disclose integrated controlled intensity laser-based light source, U.S. Patent No. 5,761,229.

The patent to Chu et al. disclose Fabrication method of polarization-controlled surface emitting laser diode using tilted-cavity, U.S. Patent No. 5,712,188

The patent to Araki discloses power control device for laser emitting unit , U.S. Patent No. 5,418,806, *See figure 2,*

The patent to Tanaka et al. disclose Polarization mode switching semiconductor laser apparatus, U.S. Patent No. 5,497,390

The patent to Vakhshoori discloses Article comprising a semiconductor laser that is non-degenerate with regard to polarization, U.S. Patent No.5,390,209.

The patent to Marshall discloses Fiber stub end-Pumped laser, U.S. Patent No.6,327,291 B 1

### Conclusion

12. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

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13. Any inquiry concerning this communication or earlier communications from the examiner, should be directed to Hung Vy whose telephone number is (703) 605-0759.

The examiner can normally be reached on Monday-Friday 8:30 am - 5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



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